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| 10/574,265      | 03/31/2006  | Mitsuteru Mutsuda    | 2224-0255PUS1       | 9018             |

2292 7590 08/29/2011  
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| EXAMINER |
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FREEMAN, JOHN D

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| ART UNIT | PAPER NUMBER |
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1787

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| NOTIFICATION DATE | DELIVERY MODE |
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08/29/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/574,265 | <b>Applicant(s)</b><br>MUTSUDA ET AL. |  |
|                              | <b>Examiner</b><br>JOHN FREEMAN      | <b>Art Unit</b><br>1787               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,6-14,19 and 22-24 is/are pending in the application.
- 4a) Of the above claim(s) 22-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-14 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### DETAILED ACTION

1. In light the new rejections set forth below, this Office Action is Non-Final. Applicants Claim Amendments filed 8/10/2011 are entered.

#### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 6-14, 19, and 21-24 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 7,534,494. Although the conflicting claims are not identical, they are not patentably distinct from each other because both disclose a molded composite article having directly joined resin members.

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4. Regarding claim 1:

5. US '494 discloses a molded composite article comprising a thermoplastic polyurethane resin member and a polyamide resin member (claim 1). The polyurethane is an elastomer (claim 7). The polyamide resin member is either (A) a mixture of polyamide resin with an amino group content of not less than 20 mmol/kg or (B) a polyamide resin and a compound with an amino group (claim 2). In situation (A) the polyamide resins are alicyclic and aliphatic or aromatic (claim 3). In situation (B) the compound with an amino group is a polyamide oligomer (claim 4). However, there is no disclosure of the number average molecular weight of the oligomer.

6. Applicant's attention is drawn to MPEP 804 where it is disclosed that "the specification can always be used as a dictionary to learn the meaning of a term in a patent claim." *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. (underlining added by examiner for emphasis) *In re Vogel*, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970).

7. Consistent with the above underlined portion of the MPEP citation, attention is drawn to column 9, lines 3-13 of US '494 that discloses the polyamide has a number average molecular weight from 2,000-9,000 in order to improve the adhesion between the two different members. Therefore, it would have been obvious to use a polyamide having a molecular weight in this range in US '494.

8. Regarding claims 6-7:

9. Applicant's attention is drawn to MPEP 804 where it is disclosed that "the specification can always be used as a dictionary to learn the meaning of a term in a patent claim." *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. (underlining added by examiner for emphasis) *In re Vogel*, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970).

10. The alicyclic component can be an alicyclic diamine (col 4 ln 53-59). The alicyclic polyamide comprises 100 mol% alicyclic components, e.g., an alicyclic diamine and an alicyclic dicarboxylic acid (col

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4 In 49-51). The alicyclic polyamide resins have high transparency (col 4 In 57-59). Therefore, it would have been obvious to use an alicyclic diamine at high mole percentages in this range in US '494.

11. Regarding claim 8:

12. As noted above US '494 teaches the present composition.

13. Regarding claims 9-12:

14. The amino group containing compound makes up 0.01-10 pbw (claim 5). Using the specification as a dictionary as described above, it is noted that the polyamide oligomer has an amino group concentration of 50-700 mmol/kg (col 9 In 33). The amino group concentration refers to primary amino groups (col 7 In 11-20). Outside of this concentration, the properties of the resin deteriorate. Therefore, it would have been obvious to use a polyamide oligomer with this amino group concentration in US '494.

15. Regarding claim 13:

16. As noted above US '494 teaches the present composition.

17. Regarding claim 14:

18. The polyurethane is polyester urethane elastomer or polyether urethane elastomer (claim 9).

19. Regarding claim 19:

20. The composite is part of a shoe or roll (claim 12).

21. Regarding claims 22-24:

22. US '494 discloses the present processes (claims 17-21).

### ***Claim Rejections - 35 USC § 102***

23. Claims 1, 6-14, and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Wakita et al. (WO 2004/050363).

24. Note: the examiner uses US 7,534,494 as an English language equivalent for WO '363. All citations herein refer to the US document.

25. Regarding claim 1:

26. Wakita discloses a composite comprising a molded composite article comprising a polyamide resin member directly bonded with a polyurethane resin member (col 2 In 30-38). The polyurethane

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member is a thermoplastic elastomer (col 3 ln 5). The polyamide member can comprise an alicyclic polyamide (col 4 ln 12). The polyamide contains terminal amino groups at not less than 15 mmol/kg (col 7 ln 11-34). The alicyclic polyamide is blended with an aromatic polyamide (col 7 ln 1-5). Alternatively, the polyamide member can contain a polyamide resin and a compound having an amino group-containing compound (col 2 ln 53-57). The amino group-containing compound can be an oligomer having a molecular weight from 2,000-9,000 (col 9 ln 3-13).

27. Regarding claims 6-7:

28. The alicyclic component can be an alicyclic diamine (col 4 ln 53-59). The alicyclic polyamide comprises 100 mol% alicyclic components, e.g., an alicyclic diamine and an alicyclic dicarboxylic acid (col 4 ln 49-51).

29. Regarding claim 8:

30. As noted above Wakita teaches the present composition.

31. Regarding claims 9-11:

32. The polyamide oligomer has an amino group concentration of 50-700 mmol/kg (col 9 ln 33). The amino group concentration refers to primary amino groups (col 7 ln 11-20).

33. Regarding claim 12:

34. The amino group containing compound makes up 0.01-10 pbw relative to 100 parts polyamide (col 9 ln 35-48).

35. Regarding claim 13:

36. Wakita's composition corresponding to the present composition uses polyamide (col 2 ln 53-57).

37. Regarding claim 14:

38. The polyurethane is polyester urethane elastomer or polyether urethane elastomer (col 3 ln 26).

39. Regarding claim 19:

40. The composite is part of a shoe or roll (col 3 ln 34-35).

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41. Claims 1, 6, 8-14, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikuta et al. (US 2003/0118839).

42. Regarding claim 1:

43. Ikuta discloses a composite comprising a thermoplastic resin part bonded to a rubber part [0001]. The thermoplastic part includes polyamide resins and comprises mixtures of thermoplastics [0036].

44. Corresponding to presently claimed non-urethane resin (Ib-1), the polyamide resin includes alicyclic polyamides [0040]. The terminal groups can be up to 100% amino groups [0044]. The examiner submits the resin taught by Ikuta intrinsically has a terminal amino group concentration greater than 15 mmol/kg as presently claimed because 100% of the terminal ends can be amino groups and the polymer is otherwise the same as presently claimed.

45. The rubber part includes urethane-based rubbers [0081]. Such urethane rubbers include polyester-based urethane elastomers and polyether-based urethane elastomers [0086]. Ikuta discloses such elastomers are thermoplastic [0067].

46. Regarding claims 6:

47. The alicyclic polyamide resin includes an aliphatic and alicyclic diamine component [0040].

48. Regarding claim 14:

49. The rubber part includes polyester-based urethane elastomers and polyether-based urethane elastomers [0086].

50. Regarding claim 19:

51. There is no disclosure in Ikuta that the composite is for a shoe or roll. However, the recitation in the claims that the molded composite is "a shoe member or a roll member" is merely an intended use. Applicants attention is drawn to MPEP 2111.02 which states that intended use statements must be evaluated to determine whether the intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

52. It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use, i.e. a composite used in a

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shoe or roll member, recited in the present claims does not result in a structural difference between the presently claimed invention and the prior art and further that the prior art structure which is a composite identical to that set forth in the present claims is capable of performing the recited purpose or intended use.

***Claim Rejections - 35 USC § 103***

53. Claims 1, 7-14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikuta et al. (US 2003/0118839).

54. Regarding claim 1:

55. Ikuta discloses a composite comprising a thermoplastic resin part bonded to a rubber part [0001]. The thermoplastic part includes polyamide resins [0036].

56. Corresponding to presently claimed non-urethane resin (Ib-2), the thermoplastic polyamide resin can include a vulcanization auxiliary, which includes an oligomer polyamide having a number-average molecular weight of up to about 1000 [0108].

57. It has long been an axiom of United States patent law that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003) ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages."); *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980) ("[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art."); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955) ("[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation."). "Only if the 'results of optimizing a variable' are 'unexpectedly good' can a patent be obtained for the claimed critical range." *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (quoting *In re Antonie*, 559 F.2d 618, 620 (CCPA 1977)).



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58. At the time of the invention, it would have been obvious to one of ordinary skill in the art to increase the molecular weight of the polyamide oligomer, including to values within the presently claimed range, to adjust the processing properties of the resulting polymer.

59. The examiner submits the resin taught by Ikuta intrinsically has a terminal amino group concentration greater than 15 mmol/kg as presently claimed because 100% of the terminal ends can be amino groups and the polymer is otherwise the same as presently claimed.

60. The rubber part includes urethane-based rubbers [0081]. Such urethane rubbers include polyester-based urethane elastomers and polyether-based urethane elastomers [0086]. Ikuta discloses such elastomers are thermoplastic [0067].

61. Regarding claim 7:

62. Corresponding to presently claimed non-urethane resin (Ib-1), the polyamide can be the result of reacting an aliphatic dicarboxylic acid and an alicyclic diamine [0040]. Therefore, when faced with a mixture, one of ordinary skill in the art would be motivated by common sense to select a 1:1 ratio, a ratio that falls within the presently claimed amount, absent evidence of unexpected or surprising results. Case law holds that "[h]aving established that this knowledge was in the art, the examiner could then properly rely... on a conclusion of obviousness, 'from common knowledge and common sense of the person of ordinary skill in the art within any specific hint or suggestion in a particular reference.'" *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

63. Regarding claims 8 and 13:

64. The thermoplastic can include the oligomer as previously explained, thus meeting the requirement of presently disclosed (Ib-2).

65. Regarding claim 9:

66. Given that Ikuta teaches the polyamide resin contains 100% terminal amino groups, and further teaches the vulcanization-auxiliary polyamide oligomer is made from the same material, Ikuta teaches the polyamide oligomer contains 100% terminal amino groups. That is, Ikuta teaches the oligomer has a plurality of primary amino groups in each molecule.

67. Regarding claims 10-11:

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68. Ikuta teaches the polyamide oligomer should contain not less than 2 active hydrogen atoms, i.e., amino groups, per molecule. The examiner takes the position that Ikuta's oligomer inherently satisfies the presently claimed amino-group concentration because it is otherwise the same oligomer as presently claimed.

69. Regarding claim 12:

70. The polyamide oligomer comprises 0.5-20 pbw compared to 100 pbw of the resin [0110].

71. Regarding claim 14:

72. The rubber part includes polyester-based urethane elastomers and polyether-based urethane elastomers [0086].

73. Regarding claim 19:

74. There is no disclosure in Ikuta that the composite is for a shoe or roll. However, the recitation in the claims that the molded composite is "a shoe member or a roll member" is merely an intended use. Applicants attention is drawn to MPEP 2111.02 which states that intended use statements must be evaluated to determine whether the intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

75. It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use, i.e. a composite used in a shoe or roll member, recited in the present claims does not result in a structural difference between the presently claimed invention and the prior art and further that the prior art structure which is a composite identical to that set forth in the present claims is capable of performing the recited purpose or intended use.

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***Response to Arguments***

76. Applicant's arguments filed 8/10//2011 have been fully considered but they are not persuasive.

77. Regarding rejections under 35 USC 102/103:

78. Applicant submits Ikuta does not disclose "the unvulcanized rubber as bonding to the resin member" (p10).

79. The examiner notes the present claims recite only "directly joined" with respect to the two resin members, which is broader than "bonding" the members as submitted by Applicant. The examiner notes an amendment to the claims replacing "joined" with "bonded" would overcome the rejections based on Ikuta.

80. Applicant submits one could not predict or deduce the amino group concentration of 15 mmol/kg or more from a reading of Ikuta (p11).

81. The examiner maintains, however, the resin taught by Ikuta inherently meets the amino group concentration requirement given that it otherwise appears to be the same resin as claimed.

82. Applicant submits the present invention achieves unexpected results as previously submitted (p12).

83. The examiner does not find the data persuasive. First, the examiner notes the data are not commensurate in scope with the claims: the examples show specific examples of specific polymers having amino group concentrations at specific values and shows the peel strength values of the a molded composite article with a specific thermoplastic polyurethane elastomer, whereas the present claims refer broadly to either any polyamide resin having a minimum amino group concentration or any of a group of resins having a polyamide oligomer attached to any thermoplastic polyurethane elastomer. Applicant has not shown, or fully explained, how the specific examples provide a sufficient basis to conclude that the unexpected results hold for the broad genus presently claimed.

***Conclusion***

84. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lacroix '908 discloses a multilayer structure comprising polyamide and polyurethane.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN FREEMAN whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 9:00-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Freeman  
Examiner  
Art Unit 1787

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/Callie E. Shosho/  
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